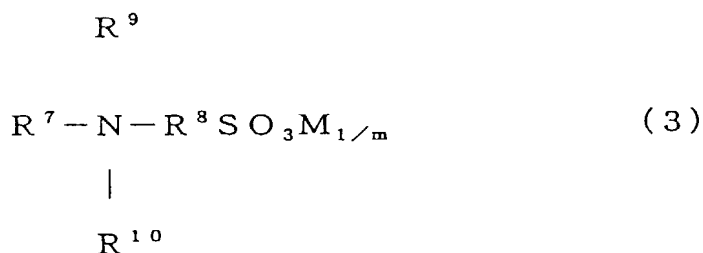
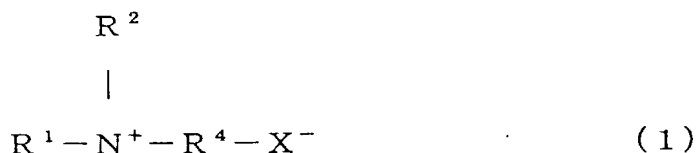


## CLAIMS

1. A spin finish for elastic fibers  
 which comprises an amphoteric surfactant (A1) and/or a  
 5 cationic surfactant (A2) as well as a base oil (B) and  
 has a surface tension thereof at 25°C of 14 to 35 mN/m  
 and a volume resistivity thereof at 20°C of  $1 \times 10^7$  to  $1 \times 10^{13}$   
 $\Omega \cdot \text{cm}$ .

10 2. The spin finish for elastic fibers according to Claim  
 1,  
 wherein the amphoteric surfactant (A1) comprises not less  
 than one surfactant represented by the following general formula  
 (1), (2) or (3):

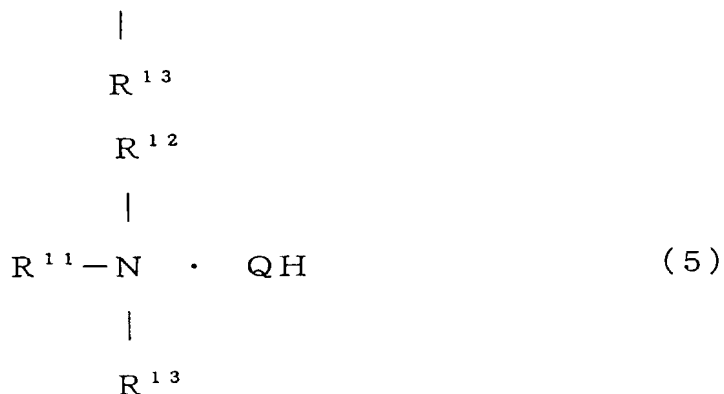


20 in the formulas,  $\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  each independently is a group selected  
 from among an alkyl, alkenyl and hydroxyalkyl group containing  
 1 to 30 carbon atoms and groups represented by the formula  $\text{R}^5 - \text{T} - \text{R}^6 -$ ,

$R^5$  represents the residue of a  $C_{1-30}$  fatty acid after removal of the  $COOH$  group therefrom,  $R^6$  represents an alkylene or hydroxyalkylene group containing 1 to 4 carbon atoms and  $T$  represents  $-COO-$  or  $-CONH-$ ;  $R^4$  is an alkylene or hydroxyalkylene group containing 1 to 4 carbon atoms;  $X^-$  is  $COO^-$  or  $SO_3^-$ ;  $R^7$  is an alkyl, alkenyl or hydroxyalkyl group containing 1 to 30 carbon atoms;  $R^8$  is an alkylene or hydroxyalkylene group containing 1 to 4 carbon atoms;  $R^9$  is a hydrogen atom or a group represented by the formula  $-R^8COOM_{1/m}$ ;  $R^{10}$  is a hydrogen atom or an alkyl or alkenyl group containing 1 to 30 carbon atoms;  $M$  is a hydrogen atom or an alkali metal, alkaline earth metal or amine cation and, when  $M$  is a plurality of species, they may be the same or different;  $m$  represents the valence of  $M$  and is 1 or 2.

3. The spin finish for elastic fibers according to Claim 1 or 2,

wherein the cationic surfactant (A2) comprises one or two or more surfactants represented by the following general formula (4) or (5):



in the formula,  $R^{11}$ ,  $R^{12}$  and  $R^{13}$  each independently represents

a group selected from among an alkyl, alkenyl, hydroxyalkyl and polyoxyalkylene group containing 1 to 30 carbon atoms and groups represented by the formula  $R^5-T-R^6-$ ,  $R^5$  represents the residue of a  $C_{1-30}$  fatty acid after removal of the COOH group therefrom,   
 5  $R^6$  represents an alkylene or hydroxyalkylene group containing 1 to 4 carbon atoms and T represents  $-COO-$  or  $-CONH-$ ;  $R^{14}$  is an alkyl, alkenyl, hydroxyalkyl or polyoxyalkylene group containing 1 to 30 carbon atoms; any two of  $R^{12}$ ,  $R^{13}$  and  $R^{14}$ , together with N, may combinedly form a heterocyclic ring;  $Q^-$  represents   
 10 an inorganic or organic acid anion and QH represents an inorganic or organic acid.

4. A spin finish for elastic fibers which comprises an ionic surfactant (A) and a base oil   
 15 (B) and has a surface tension (S) thereof at 25°C of 14 to 22.5 mN/m and a volume resistivity ( $\rho$ ) thereof at 20°C of  $1 \times 10^7$  to  $1 \times 10^{13} \Omega \cdot \text{cm}$ ,

$\rho$  and S satisfying the following relation [1]:  
 $\rho \leq 1 \times 10^{(-2.4S + 61)}$  [1].

20

5. The spin finish for elastic fibers according to Claim 4,

wherein (A) is one or two or more ionic surfactants selected from the group consisting of amphoteric surfactants   
 25 (A1), cationic surfactants (A2) and anionic surfactants (A3), said (A1), (A2) and (A3) containing neither perfluoro(cyclo)alkyl group nor perfluoroalkylene group.

6. The spin finish for elastic fibers according to any   
 30 one of Claims 1 to 5,

wherein the base oil (B) is not less than one lubricant selected from the group consisting of fluorine-containing lubricants (B1), silicone lubricants (B2), hydrocarbon   
 lubricants (B3), alcohol lubricants (B4), carboxylic acid   
 35 lubricants (B5), carboxylic acid ester lubricants (B6) and

polyether lubricants (B7).

7. The spin finish for elastic fibers according to Claim 6,

5 wherein (B1) is one or two or more species selected from the group consisting of polymers (B1-1), surfactants (B1-2) and other esters and/or amides (B1-3).

8. The spin finish for elastic fibers according to any 10 one of Claims 1 to 7

which comprises one or two or more anti-tackiness agents selected from the group consisting of fine mineral solid particles, higher fatty acid (C<sub>5-30</sub>) metal salt powders, silicones which are solid at ordinary temperature and waxes which are solid 15 at ordinary temperature.

9. The spin finish for elastic fibers according to any one of Claims 6 to 8,

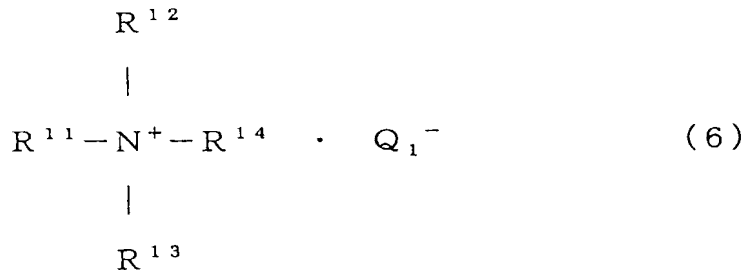
20 wherein the content of (B1) in the spin finish (nonvolatile matter) is 0.1 to 90% by weight.

10. The spin finish for elastic fibers according to any one of Claims 1 to 9,

25 wherein the content of (A1) and/or (A2) or of (A) in the spin finish (nonvolatile matter) is 0.01 to 30% by weight.

11. A spin finish for elastic fibers

30 which comprises a quaternary ammonium salt (A2-11) represented by the following general formula (6), a base oil (B) and a higher fatty acid (C<sub>5-30</sub>) metal salt powder (C):



in the formula,  $R^{11}$ ,  $R^{12}$  and  $R^{13}$  each independently is a group selected from among an alkyl, alkenyl, hydroxyalkyl and polyoxyalkylene group containing 1 to 30 carbon atoms and groups represented by the formula  $R^5-T-R^6-$ ,  $R^5$  represents the residue of a  $C_{1-30}$  fatty acid after removal of the COOH group therefrom,  $R^6$  represents an alkylene or hydroxyalkylene group containing 1 to 4 carbon atoms and T represents  $-COO-$  or  $-CONH-$ ;  $R^{14}$  is an alkyl, alkenyl, hydroxyalkyl or polyoxyalkylene group containing 1 to 30 carbon atoms; any two of  $R^{12}$ ,  $R^{13}$  and  $R^{14}$ , together with N, may combinedly form a heterocyclic ring; and  $Q_1^{-}$  is an organic acid anion derived from an organic acid-modified silicone.

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12. The spin finish for elastic fibers according to Claim 11,

which comprises not less than one additives selected from among antistatic agents (D), softening agents (E) and anti-tackiness agents (F) other than (C).

20

13. The spin finish for elastic fibers according to Claim 11 or 12,

wherein the content of (A2-11) in the spin finish (nonvolatile matter) is 0.01 to 10% by weight and the content of (C) is 0.01 to 12% by weight and the content of (B) is not less than 70% by weight.

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14. A method of treating an elastic fiber

which comprises providing an elastic fiber with the spin finish according to any one of Claims 1 to 13 in an amount of 0.1 to 12% by weight of said fiber.

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15. An elastic fiber

which is obtainable by the treatment method according to Claim 14.